

THAT WHICH IS CLAIMED IS:

1. The method which comprises: applying an antibacterial fluid to a tubular medical cannula for access to a patient, said fluid comprising an antibacterial formulation having a viscosity of about 5,000 to 80,000 cp, and inserting the cannula into the patient or a medical device communicating with the patient.

2. The method of claim 1 in which said fluid is placed on an outer wall of the cannula, and said fluid has a lubricating capability to reduce the friction of the cannula advancing into the patient, when compared with the same cannula advancement without said fluid.

3. The method of claim 2 in which said fluid is placed on the cannula outer wall in an amount sufficient to cause some of said fluid to be wiped from the cannula upon said inserting of said cannula, to visibly reside adjacent to the skin of the patient.

4. The method of claim 1 in which said cannula is passed through a pool of said fluid residing on the skin of the patient.

5. The method of claim 1 in which said fluid comprises an antibacterial agent, mixed with a body-clearing, viscosity increasing agent.

6. The method of claim 1 in which said antibacterial agent comprises isopropyl alcohol.

7. The method of claim 1 in which said viscosity increasing agent comprises starch.

8. The method of claim 1 in which said fluid is applied to the interior of the cannula.

9. A kit which comprises a tubular medical cannula, a supply of antibacterial fluid having a viscosity of about 5,000 to 80,000 cp, and instructions for practicing the method of claim

1.

20250415 012302

10. An antibacterial formulation which comprises a relatively low viscosity antibacterial agent mixed with sufficient viscosity increasing agent to provide a viscosity of about 5,000 to 80,000 cp to the formulation.

11. The formulation of claim 10 in which said low viscosity antibacterial agent is selected from the group consisting of alcohols, chlorhexidine, chlorpactin, iodine, tauroline, citric acid, and soluble citric acid salts such as sodium citrate.

12. The formulation of claim 10 which comprises an effective amount of an antithrombogenic agent such as heparin.

13. The formulation of claim 10 in which said antibacterial agent comprises at least one of ethanol, isopropanol, and citric acid.

14. The formulation of claim 10 in which said viscosity increasing agent comprises hydroxypropylcellulose.

15. The formulation of claim 10 in which said viscosity is from 20,000 to 30,000 cp

16. The formulation of claim 10 which comprises a mixture of isopropyl alcohol and about 2 to four weight percent of hydroxypropylcellulose.

17. A squeeze-delivery container which contains the formulation of claim 10.

18. The container of claim 17 in which said container has a delivery port which comprises a male luer with lumen having an inner diameter of at least 2 mm.

19. A cannula, carried by a hub and having a lumen at least partially filled with the formulation of claim 10.

20. The formulation of claim 10 which is body-clearing.

2025 RELEASE UNDER E.O. 14176

21. The formulation of claim 20 in which said viscosity increasing agent comprises a starch.

22. The method which comprises: attaching the male luer of the container of claim 17 to a female luer of a catheter emplaced in the body of a patient, and squeezing said container to transfer said antibacterial formulation into said catheter.

23. The method which comprises placing an antibacterial fluid in a cannula tract extending through the skin of a patient and inwardly therefrom, said method comprising; inserting a cannula coated with said fluid into said cannula tract; and passing flushing fluid through the cannula to exit said cannula at an inner portion of said tract and to cause said flushing fluid to flow outwardly through said tract so that some of said fluid exits around the cannula through the skin; said antibacterial fluid having a viscosity of about 5,000 to 80,000 cp.

24. The method of claim 23 in which said antibacterial fluid has a viscosity of 10,000 to 30,000 cp, and comprises a relatively low viscosity antibacterial agent plus a viscosity increasing agent.

25. The method of claim 23 in which said antibacterial agent is isopropyl alcohol.

26. The method of claim 23 in which said viscosity increasing agent comprises hydroxypropylcellulose or a starch.

27. The method of claim 23 in which said cannula tract communicates at its inner end with an artificial port which communicates with a body lumen of a patient.

28. A kit which comprises a cannula, a supply of antibacterial fluid having a viscosity of about 5,000 to 80,000 cp, and instructions for practicing the method of claim 23.

29. The method which comprises: placing a fluid into a lumen of a catheter installed in a patient to "lock" the catheter, to reduce the flow of body fluids into the catheter lumen as the catheter resides in the patient, said fluid having a viscosity of about 5,000 to 80,000 cp.

30. The method of claim 29 in which said fluid comprises an antibacterial agent.

31. The method of claim 29 in which said fluid comprises an antithrombogenic agent.

32. A kit which comprises a supply of fluid to "lock" an installed catheter, said fluid having a viscosity of about 5,000 to 80,000 cp, and instructions for practicing the method of claim 29.

33. The method which comprises placing a fluid on the outer surface of a medical cannula, said fluid comprising an antibacterial agent and having a viscosity of about 5,000 to 80,000 cp, and thereafter inserting the cannula through the skin of the patient or into a sterile receptacle.

34. The method which comprises placing a portion of a fluid, which comprises an antibacterial agent and has a viscosity of about 5,000 cp to 80,000 cp, on the skin of a patient to form a fluid layer on the skin, and thereafter passing a medical cannula through the fluid layer on the skin and through the skin of the patient.

35. The method of claim 34 in which said medical cannula is carried by a hub and connects with flexible tubing, said cannula extending transversely to the axis of said flexible tubing adjacent to said hub.

36. An aqueous solution of an antithrombogenic agent, present in a concentration effective to suppress blood clotting, said solution also comprising a viscosity increasing agent and having a viscosity of 5,000 to 80,000 cp.

10056045 "012302

37. The solution of claim 36 in which said antithrombogenic agent is heparin.
38. The solution of claim 36 in which said viscosity is 10,000 to 50,000 cp.

2025-01-01 10:50:45